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ABSTRACT

This report presents the results of a study of the relationship between self concept and academic achievement and between self concept and intellectual development in minority group school children. The subjects were second grade black and Hispanic children in an urban school. The Stanford Achievement Test was used to measure academic achievement in the areas of reading, social studies, science, and listening comprehension. To measure self concept, the Piers Harris Self Concept Scale was administered. Intellectual development was measured using seven Piagetian tasks. The results of the study show a significant correlation between self concept and academic achievement and between self concept and intellectual development. Implications of the results are discussed. (Author/MC)

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The linkage between self-concept and academic achievement has been shown in a number of research studies (1,2,3). The idea of self-concept being an important factor in our understanding of human behavior is based on the work of Snygg and Combs (4).

It is believed that a low self-concept among minority school children, especially blacks and hispanics, is a major reason for their lack of success in school. According to Reyes (5), a culturally relevant curriculum with serious consideration of a child's self-concept is necessary to assure academic success. Caplin (6) found that black elementary school children who had more positive self-concepts, tended to also have higher academic achievement scores. Mangano and Towne (7)examined the self-concept and academic achievement of Puerto Rican migrant students. This study verified that a highly positive self-concept is related to high academic achievement. The relationship between black students academic success and self-concept has been further substantiated in studies by Godfrey (8) and Andrew (9).

There is research evidence which shows a relationship between Piagetian intellectual development stages and academic achievement. Lepper (10) found correlations of 0.25 to 0.45 among five conservation tasks and the Metropolitan Reading Readiness Test. Almy (11) reported a significant relationship between Piagetian conservation tasks and beginning reading. Brown, et. al.(16), found that success in science was related to achievement of Piagetian tasks. Goldschmid (13) reported positive correlations between conservation reasoning and verbal ability.

Although the linkage between self-concept and academic achievement and between intellectual development and academic achievement has been established, very little research has been reported on the relationship between self-concept and intellectual development.

PURPOSE

The purpose of this study is to present results of relationships between self-concept and academic achievement, and also between self-concept and intellectual development of minority school children.

METHODOLOGY

Subjects

The fifty-one (51) subjects in this study were second grade children in a predominantly bi-ethnic (black and hispanic) school located in an urban setting. The composition of the school was 45% hispanic, 45% black, and 10% anglo. Although anglo students participated in the study, their results were not included in the treatment of the data. The average age of the students was 8.1 years with a standard deviation of 0.75.

Instrumentation

The Stanford Achievement Test (14) was used to measure academic achievement in the areas of reading (word and comprehension), social studies, science, and listening comprehension. The reliability for this test is reported to be 0.81. To measure self-concept,the Piers-Harris Self-Concept Scale (15) was administered. The authors of the test report a reliability in the range of 0.78 - 0.98 for this instrument. Intellectual development was measured using the following Piagetian tasks as described by Lawson (16).

1. Conservation of number (Goldschmid (13))
2. Conservation of substance (Elkind (17))
3. Conservation of continuous quatity (Elkind (18))
4. Conservation of length (Renner, Stafford and Ragan (19))
5. Conservation of area (Goldschmid (13))
6. Conservation of weight (Elkind (17))
7. Conservation of volume using cylinders (Karplus and Lavatelli (20))

All seven tasks were administered by trained interviewers. Each task consisted of two parts, response and explanation. Students were awarded one (1) point for answering correctly each part except for the conservation of volume using cylinders explanation. It required two answers, therefore the total possible score for this task was three (3), instead of two (2) for the other tasks.

RESULTS AND DISCUSSION -

Pearson correlation coefficients were calculated for all possible relationships. Table I below indicates the significant positive correlations found between self-concept and five (5) Stanford Achievement Test subscale scores: reading (word and comprehension), social studies, science, and listening comprehension.

TABLE I

Correlation Coefficients Between Self-Concept and the Stanford Academic Achievement Scores

	READING		SOCIAL STUDIES	SCIENCE	LISTENING
	WORD	COMPREHENSION			COMPREHENSION
SELF-CONCEPT	0.60*	0.48*	0.40**	0.50*	0.38**

*$p < 0.001$
**$p < 0.05$

Table II lists the significant positive correlations found between self-concept and four Piagetian tasks; length (response and explanation), area (explanation), weight (explanation), and volume (explanation).

TABLE II

Correlation Coefficients Between Self-Concept and Piagetian Tasks

	LENGTH		AREA		WEIGHT		VOLUME	
	RESP.	EXP.	RESP.	EXP.	RESP.	EXP.	RESP.	EXP.
SELF CONCEPT	0.40**	0.42**	NS	0.36**	NS	0.29**	NS	0.30**

**$p < 0.05$

CONCLUSIONS

The correlational data presented here on the relationship between self-concept and academic achievement scores support the studies done by Mangano and Towne (7), Godfrey (8) and Andrew (9). The results on the relationship between self-concept and Piagetian tasks show that the measures of intellectual development (explanation in area, weight, volume, and response and explanation in length), are significantly correlated to the student's perception of self.

Rogers' statement (21) that much of a child's academic behavior is influenced by his self-perception is further supported by these results. The student's perception of self is a multidimensional (and therefore complex) construct. Piers and Harris (15) designed their inventory to determine how a student feels about how he/she performs or reacts in the following behavior categories:

1. Physical abilities
2. Mental abilities
3. Social relations with peers of same sex
4. Social relations with peers of opposite sex
5. Social relations with parents
6. Social relations with teachers
7. Work habits
8. Personality - social virtues
9. Personality - happy qualities
10. School subjects

Reyes (5) identifies the following as forces that contribute to the development of the self-concept:

1. The family
2. The peer group
3. Other significant adults
4. The culture in which he/she grows
5. The school

Furthermore, Grant (22) indicates that one must consider race [ethnicity] as an aspect of self-concept.

To indicate that any of the above aspects of self-concept can be manipulated and therefore cause a change in the child's perception of self is rather naive. However, as we demonstrate through research how the child's perception of self is related to some of the elements listed above, it will be much easier to translate the information obtained

in these studies to the more practical terms of instructional planning and delivery.

As discussed before, research evidence shows a relationship between academic achievement and intellectual development. This study goes one step further as it demonstrates the existance of a significant correlation between self-concept and intellectual development. What this implies is that having a positive self-concept may make it easier to achieve higher levels of intellectual development as the child proceeds from one stage of development to another. The implications for teachers and curriculum developers are also along the lines that in developing instruction and materials, careful consideration must be given to methodology and curricula conducive to the enhancement of self-concept.

Furthermore, it is suggested that studies such as this one be carried out larger student population with consideration of geographical and, in the case of hispanics, sub-ethnic diversity.

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